

[METHOD FOR DETERMINING FRINGING CAPACITANCES ON PASSIVE DEVICES WITHIN AN INTEGRATED CIRCUIT]

Abstract

A method for determining fringing capacitances on passive devices within an integrated circuit is disclosed. A fringing capacitance region on a passive device is initially divided into a group of fringing electric field areas. A set of fringing capacitance equations is then developed for the fringing electric field areas accordingly. A determination is made as to whether or not an accuracy of the fringing capacitance equations meets a predetermined threshold. If the accuracy of the fringing capacitance equations meets the predetermined threshold, then the fringing capacitance equations are utilized in compact device models to determine fringing capacitance on the passive device. If the accuracy of the fringing capacitance equations does not meet the predetermined threshold, the physically-based fringing capacitance equations are fitted to a set of extracted data to generate a refined set of physically-based fringing capacitance equations, and the refined set of physically-based fringing capacitance equations is utilized in compact

device models to determine fringing capacitance on the passive device.